

**TRANSLATION****PATENT COOPERATION TREATY****PCT****INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>031084WO BU</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/012914</b>	International filing date (day/month/year) <b>15.11.2004</b>	Priority date (day/month/year) <b>22.12.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>F27D1/04, F27D1/14, F27D1/12, F22B37/10, F23M5/02</b>		
Applicant <b>SAINT-GOBAIN INDUSTRIEKERAMIK DÜSSELDORF GMBH</b>		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.	
3.	This report is also accompanied by ANNEXES, comprising:	
a.	<input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows:	
	<input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).	
	<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.	
b.	<input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))	
	_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4.	This report contains indications relating to the following items:	
	<input checked="" type="checkbox"/> Box No. I	Basis of the report
	<input type="checkbox"/> Box No. II	Priority
	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
	<input type="checkbox"/> Box No. IV	Lack of unity of invention
	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<input type="checkbox"/> Box No. VI	Certain documents cited
	<input type="checkbox"/> Box No. VII	Certain defects in the international application
	<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/012914

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages 1-11 \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* 1-10 \_\_\_\_\_ received by this Authority on 28.06.2005 with letter
    - nos.\* \_\_\_\_\_ received by this Authority on of 20.06.2005
  - ☒ the drawings:
    - sheets 1/2, 2/2 \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (specify): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (specify): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/012914

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	4-8	YES
	Claims	1-3, 9, 10	NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1 This report makes reference to the following document: D1: US-A-5 243 801 (AIKEN ET AL) 14 September 1993 (14-09-1993)			
2 The amendments on file are admissible under PCT Article 19(2), Article 34(2)(b) and Rule 66.			
3 <b>Novelty (PCT Article 33(1) and (2))</b>			
<p>The present application does not meet the requirements of PCT Article 33(1), since the subject matter of independent claim 1 is not novel under PCT Article 33(2).</p> <p>Document D1 discloses a wall structure composed of individual, refractory tiles for protecting the tubes of a heat exchanger (figures 2-8). The individual tiles, in accordance with their use, can be considered heat shield structures (column 1, lines 5-10) and are provided with a groove (figure 6) for accommodating corresponding T-shaped retaining elements (figure 8 (62, 61)). The groove has a first front end, open to the edge, and a second front end located in the center of the back (figure 7).</p>			

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The grooves have cross-sections that expand from the back towards the front, even if this expansion does not extend along the entire length of the groove. The groove cross-section tapers from the edge inwards (figure 2, ref. signs 46, 47), said tapering being gradual.

Therefore, document D1 contains all the technical features of independent claim 1. Independent claim 1 is therefore not novel under PCT Article 33(1) and (2).

**3.2** Dependent claims 2, 3, 9 and 10 do not contain any features which, combined with the features of any claim to which they refer, meet the PCT requirements for novelty. The reasons are as follows:

Claim 2:

Document D1 discloses plate-shaped tiles as the heat shield structures (figures 2, 4).

Claim 3:

The groove cross-section expands gradually from the back face towards the front face (figures 2, 4, 5).

Claim 9:

The back of the tiles is adapted to the outer contour of the furnace wall (figure 8).

Claim 10:

The retaining element has an end that corresponds to the cross-section of the groove (figures 6-8).

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**3 Inventive step (PCT Article 33(1) and (3))**

Dependent claims 4-8 concern only minor structural modifications of the kind that a person skilled in the art routinely makes on the basis of familiar considerations, especially since the resulting advantages are readily foreseeable. Accordingly, the subject matter of dependent claims 4, 5, 6 and 8 is not inventive.